WILMINGTON
BUTTERS ROW OVER MBTA

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	15	105
PROJECT FILE NO.		608929	

DRAINAGE AND UTILITY PLANS - 2

CONTINUED ON SHEET NO. 14
A00831 - 31

LIMIT OF WORK
STA 240+06.54
N 3021978.5094
E 746545.4280

MAIN STREET (ROUTE 38)
(PUBLIC - 1910 STATE HIGHWAY LAYOUT)

APPROXIMATE LOCATION OF ATT TELEPHONE LINE. SEE UTILITY NOTE 8 FOR MORE INFORMATION

PROP. STONE FOR PIPE ENDS
PROP. FES (2-8)
PROP. 5' DIA DMH (2-5)
PROP. CB (2-4)
25 LF - 12" DIP
4 LF - 12" DIP
PROP. CB (2-6)
PROP SEDIMENT CONTROL BARRIER (TYP)
D.E. DUCT #13 WITH PLUG
73 LF - 12" RCP
108 LF - 12" CLASS V RCP
R&R UP 28 (BO)
MATCH LINE
BUTTERS ROW
BUTTERS ROW CONSTRUCTION ℄
PROP. OCS (2-1)
BMP1
PROP. 12" DIP WATER
21 LF - 12" RCP
PROP. FES (2-7)
BURY PROP. WATER LINE 3' BELOW THE LOWEST BMP#1 ELEVATION
CUT AND PLUG AND ABANDON EXISTING 12" WATER MAIN
PROP. 12"X6" TEE AND THRUST BLOCK, 6" GATE VALVE, HYDRANT AND 6" DIP
CONNECT TO EXISTING 12" WATER MAIN WITH 12" MECHANICAL RESTRAINED COUPLING
MATCH EXISTING

635 MAIN STREET OWNER LLC
PARCEL ID 40-1
BOOK 34786 PAGE 182
635 MAIN ST

ANDREA J. DELUCA
PARCEL ID 39-16
BOOK 18231 PAGE 111
665 MAIN ST

100-FOOT WETLAND BUFFER ZONE

PROP 20' GUY (BO)
PROP UP & 20' GUY (BO)
PROP PERM EASEMENT
R&R UPL & PROP 20' GUY & LUMINAIRE (BO)
N/F
ONE CROSS LLC
PARCEL ID 40-11
BOOK 35186 PAGE 80
CROSS ST

CROSS STREET
(1951 COUNTY LAYOUT - 40' WIDE)
CROSS STREET CONSTRUCTION ℄

END PROJECT
PROJECT NO. 608929
END PAVEMENT FINE MILLING AND RESURFACING
STA 41+95.00
N 3022050.4413
E 746709.6620

END FULL DEPTH PAVEMENT
BEGIN PAVEMENT FINE MILLING AND RESURFACING
STA 41+65.74
N 3022021.8826
E 746703.2874

TOWN OF WILMINGTON
PARCEL ID 40-13-A
BOOK 35162 PAGE 138
CROSS ST

UNABLE TO DETERMINE CONNECTION TO DOWNSTREAM MAIN, UNABLE TO ROD PAST EOI
SMH
RIM=97.24
INV.(A)=87.25
INV.(B)=87.30
SUMP=87.27
2" PVC AT MANHOLE APPEARS TO BE FORCE MAIN TRANSITION TO GRAVITY MAIN, UNABLE TO ROD PIPE TO DESIGNATE
SMH
RIM=88.53
BOLTED SHUT, INACCESSIBLE
R&R ULT 12-74 & PROP 20' GUY & LUMINAIRE (BO)
R&R UP 15-29 & RISER & LUMINAIRE (BO)
RET TMH
PROP PUSH BRACE (BO)
RET

LIMIT OF WORK
STA 243+14.73
N 3021761.2772
E 746764.0191

N/F
DIAMOND PROPERTIES TRUST
PARCEL ID 39-6
BOOK 33133 PAGE 123
668 MAIN ST

WQC/ACOE PLANS SHEET 14 OF 23

0 20 50 100
SCALE: 1" = 40'

DRAINAGE PLAN 1

DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
PROP. CB (1-1)	51+65.39	13.3 R	92.06		I=87.10' (PROP. DMH (1-3))	
PROP. CB (1-2)	51+47.42	13.2 L	90.86		I=87.10' (PROP. DMH (1-3))	
PROP. CB (1-4)	52+83.57	15.0 L	98.09		I=92.66' (PROP. DMH (1-5))	
PROP. CB (1-8)	52+85.28	14.8 R	98.25		I=93.50' (PROP. DMH (1-5))	
PROP. CB (2-1)	55+59.71	15.0 L	103.44		I=98.40' (PROP. DMH (2-2))	
PROP. CB (2-3)	55+63.15	15.0 R	103.18		I=98.10' (PROP. DMH (2-2))	
PROP. DMH (1-3)	51+77.20	9.8 L	91.06	I=86.90' (PROP. CB (1-2)) I=86.90' (PROP. CB (1-1)) I=86.90' (PROP. DMH (1-5))	I=86.80' (PROP. FES (1-9))	
PROP. DMH (1-5)	52+75.89	13.5 L	97.57	I=92.56' (PROP. CB (1-4)) I=93.00' (PROP. CB (1-8))	I=92.00' (PROP. DMH (1-3))	
PROP. DMH (2-2)	55+62.17	5.5 R	103.47	I=98.00' (PROP. CB (2-3)) I=98.00' (PROP. CB (2-1))	I=96.00' (PROP. 5' DIA DMH (2-5))	
PROP. FES (1-9)	51+88.08	39.4 L	87.75	I=86.50' (PROP. DMH (1-3))		

DRAINAGE PLAN 2

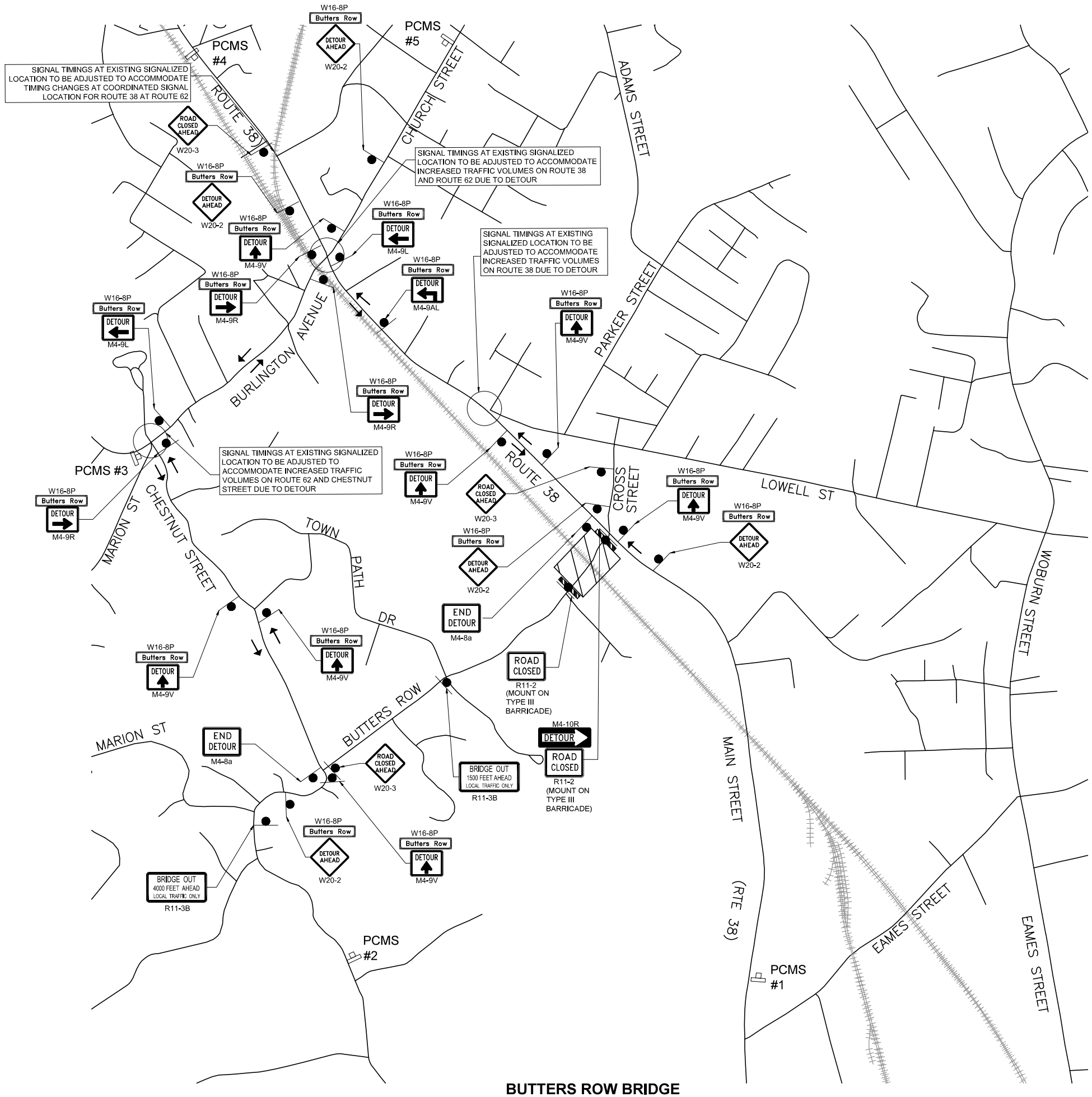
DRAINAGE STRUCTURE TABLE						
NAME/TYPE	STATION	OFFSET	RIM ELEV.	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
PROP. 5' DIA DMH (2-5)	56+74.20	13.5 R	96.39	I=92.60' (PROP. CB (2-4)) I=92.60' (PROP. CB (2-6)) I=93.00' (PROP. DMH (2-2))	I=92.40' (PROP. FES (2-7))	CONCENTRIC CYLINDRICAL STRUCTURE
PROP. CB (2-4)	56+83.84	14.8 L	95.97		I=92.90' (PROP. 5' DIA DMH (2-5))	
PROP. CB (2-6)	56+82.73	15.0 R	96.08		I=92.70' (PROP. 5' DIA DMH (2-5))	
PROP. FES (2-7)	56+71.45	36.4 R	93.45	I=92.20' (PROP. 5' DIA DMH (2-5))		
PROP. FES (2-8)	57+48.91	33.6 L	90.29	I=89.20' (PROP. OCS (2-1))		
PROP. OCS (2-1)	57+39.09	38.7 R	93.47		I=89.75' (PROP. FES (2-8))	

APPROXIMATE NORTH

WILMINGTON
BUTTERS ROW OVER MBTA

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	20	105
PROJECT FILE NO.	608929		

DETOUR PLAN



BUTTERS ROW BRIDGE
DETOUR PLAN
SCALE: 1" = 300'

DETOUR NOTES:

1. THE CONTRACTOR SHALL COORDINATE IMPLEMENTATION OF THIS DETOUR PLAN WITH MASSACHUSETTS DEPARTMENT OF TRANSPORTATION AND TOWN OF WILMINGTON PRIOR TO CONSTRUCTION ACTIVITIES.
2. PLACE ALL SAFETY DEVICES AND CONSTRUCTION SIGNING BEFORE ACTUAL CONSTRUCTION WORK BEGINS. DEPLOY ALL PCMS TWO WEEKS IN ADVANCE OF THE BUTTERS ROW BRIDGE CLOSURE. THE CONTRACTOR SHALL NOTIFY APPLICABLE STATE AND LOCAL AGENCIES TWO (2) WEEKS IN ADVANCE OF PLACING TEMPORARY TRAFFIC CONTROL SIGNS.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER NECESSARY WORK ZONE TRAFFIC DEVICES SHALL BE REMOVED FROM THE ROADWAY WHEN THEY ARE NOT REQUIRED FOR TRAFFIC CONTROL.
4. THE CONTRACTOR SHALL COORDINATE WITH ANY ABUTTING PROJECTS.
5. EXISTING SIGNS NO LONGER APPLICABLE SHALL BE TEMPORARILY COVERED DURING CONSTRUCTION OR REMOVED AND RESET UPON COMPLETION OF CONSTRUCTION.
6. SIGNS AND SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY MUST PASS THE CRITERIA SET FORTH IN THE FHWA'S MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

MESSAGES FOR PCMS #1, PCMS #2

ADVANCE NOTIFICATION		
MESSAGE 1	BUTTERS ROW BRIDGE	
MESSAGE 2	CLOSING DD/MM TO DD/MM	
DURING DETOUR		
MESSAGE 1	BUTTERS ROW CLOSED	
MESSAGE 2	FOLLOW DETOUR AHEAD	

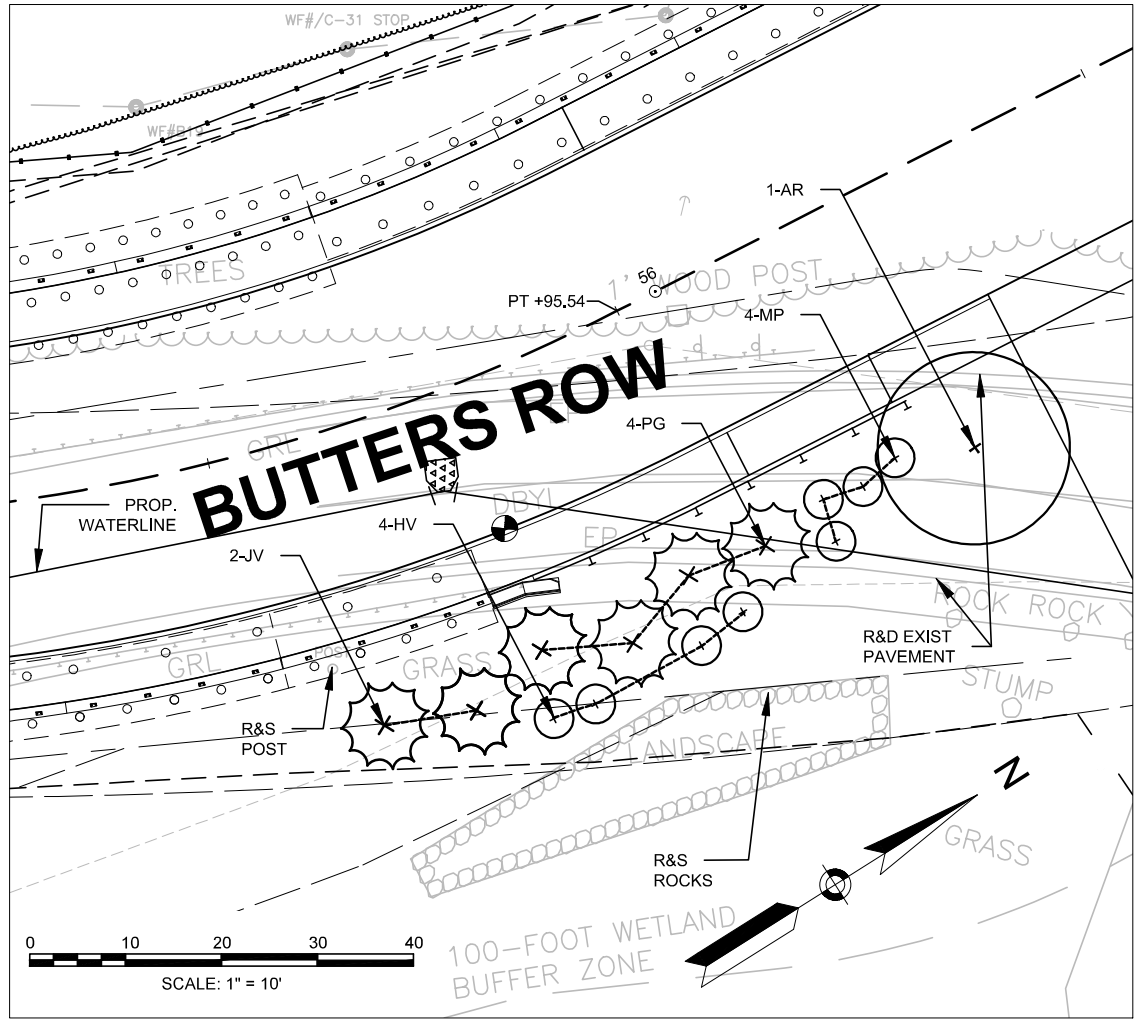
MESSAGES FOR PCMS #3, PCMS #4, PCMS #5

ADVANCE NOTIFICATION		
MESSAGE 1	BUTTERS ROW BRIDGE	
MESSAGE 2	CLOSING DD/MM TO DD/MM	
DURING DETOUR		
MESSAGE 1	BUTTERS ROW CLOSED	
MESSAGE 2	SEEK ALT ROUTE	

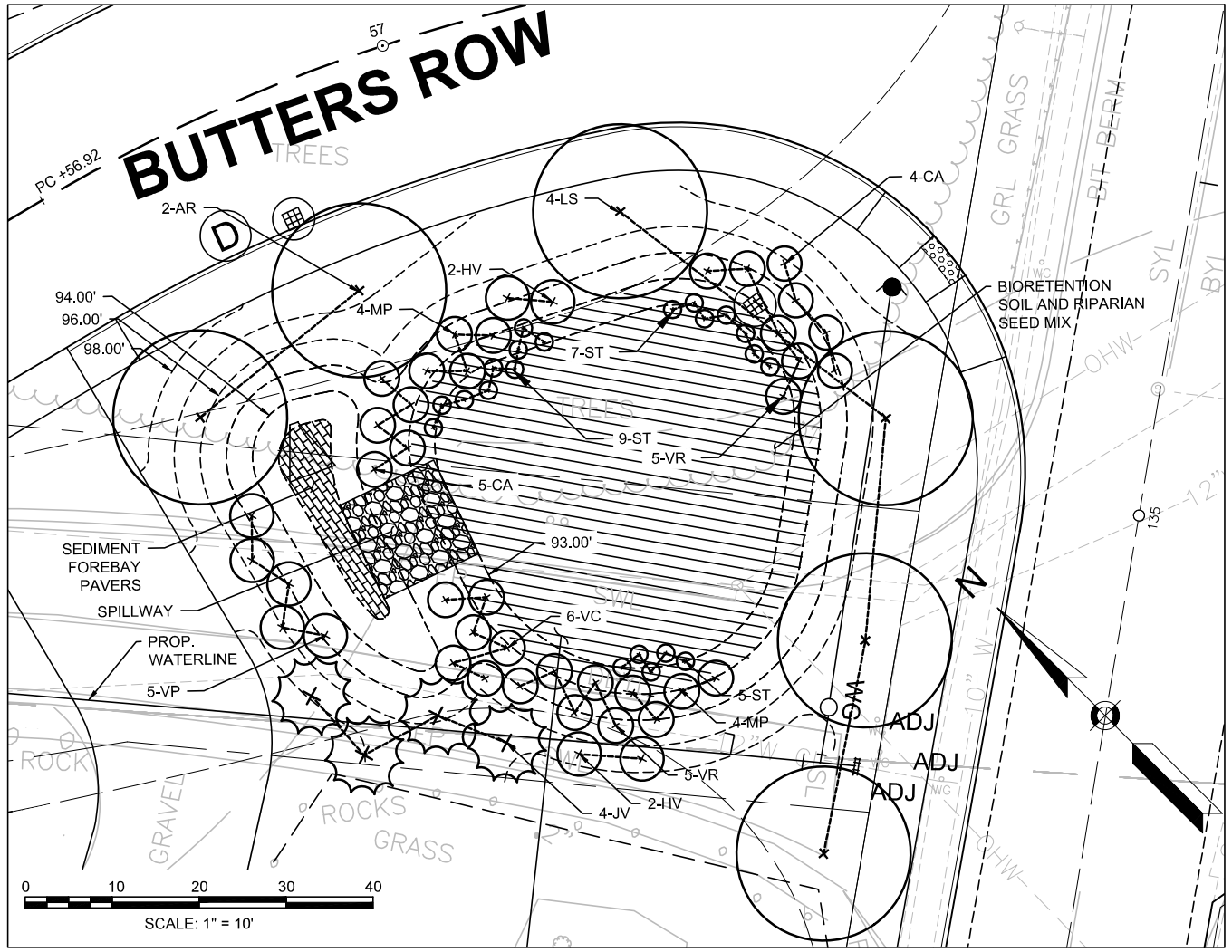
LEGEND:

- WORK ZONE
- TYPE III BARRICADE
- TRAFFIC SIGN
- PROPOSED DIRECTION OF TRAFFIC
- PCMS BOARD

WQC/ACOE PLANS SHEET 16 OF 23



UPLAND BUTTERS ROW
PLANTING DESIGN PLAN



BIORETENTION BASIN AT BUTTERS ROW
PLANTING DESIGN PLAN

PLANT LIST - UPLAND

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
		DECIDUOUS TREES			
AR	1	ACER RUBRUM	RED MAPLE	2-2 1/2" CAL	B&B
		EVERGREEN TREES			
JV	2	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	5-6' HT	B&B
PG	4	PICEA GLAUCA	WHITE SPRUCE	5-6' HT	B&B
		DECIDUOUS SHRUBS			
MP	4	MYRICA PENSYLVANICA	NORTHERN BAY BERRY	2-3 FEET HT	#3 CONT.
HV	4	HAMAMELIS VIRGINIANA	WITCH HAZEL	2-3' HT	#5 CONT.

PLANT LIST - BIORETENTION BASIN

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT
		DECIDUOUS TREES			
AR	2	ACER RUBRUM	RED MAPLE	2-2 1/2" CAL	B&B
LS	4	LIQUIDAMBAR STYRACIFLUA 'HAPDELL'	HAPPIDAZE FRUITLESS SWEET GUM	2-2 1/2" CAL	B&B
		EVERGREEN TREES			
JV	4	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	5-6' HT	B&B
		DECIDUOUS SHRUBS			
CA	9	CORNUS SERICEA	REDOSIER DOGWOOD	2-3' HT	#3 CONT.
HV	4	HAMAMELIS VIRGINIANA	WITCH HAZEL	2-3' HT	#5 CONT.
MP	8	MYRICA PENSYLVANICA	NORTHERN BAY BERRY	2-3' HT	#3 CONT.
ST	21	SPIREA ALBA VAR. LATIFOLIA	MEADOW SWEET	18-24" HT	#2 CONT
VC	6	VACCINIUM CORYMBOSUM	BLUEBERRY - HIGHBUSH	2-3' HT	#3 CONT.
VP	5	VIBURNUM PRUNIFOLIUM	BLACK HAW VIBURNUM	3-4' HT	#5 CONT.
VR	10	VIBURNUM RECOGNITUM	NORTHERN ARROWWOOD	2-3' HT	#3 CONT.

PLANTING NOTES

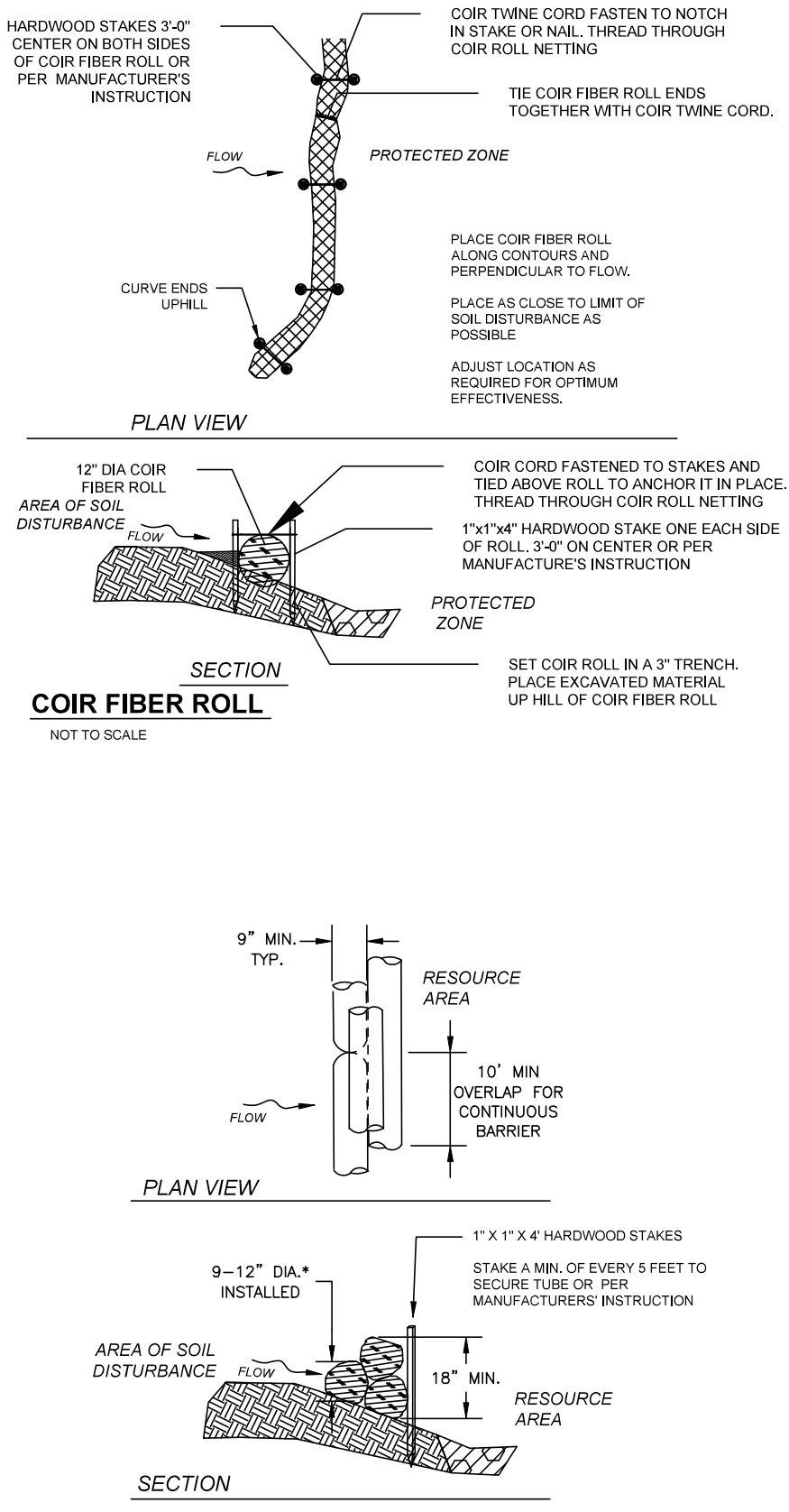
1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
2. PLANT LOCATIONS ARE APPROXIMATE. PRIOR TO PLANTING, LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER AND THE LANDSCAPE ARCHITECT.
3. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME, CULTIVAR, & SIZE.
4. IMMEDIATELY AFTER ACCEPTANCE OF PLANTING, TAGS AND RIBBONS SHALL BE REMOVED.
5. ALL PLANTS WILL BE MULCHED PER PLANS AND SPECIFICATIONS.
6. ALL SHRUB AND PERENNIAL BEDS WILL BE WEEDED AND OTHERWISE NEATLY MAINTAINED FOR THE DURATION OF THE CONTRACT.
7. ALL PROPOSED PLANT MATERIAL AND SEED MIXES SHALL BE WATERED AS PER SPECIAL PROVISIONS.

WQC/ACOE PLANS SHEET 17 OF 23

WILMINGTON
BUTTERS ROW OVER MBTA

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	31	105
PROJECT FILE NO.	608929		

LANDSCAPING PLANS

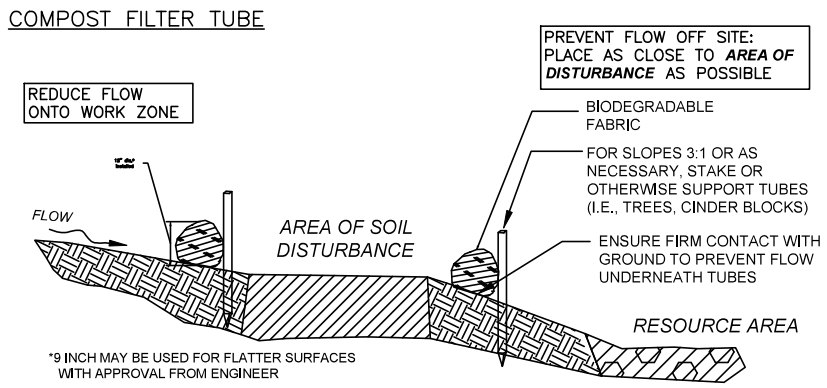


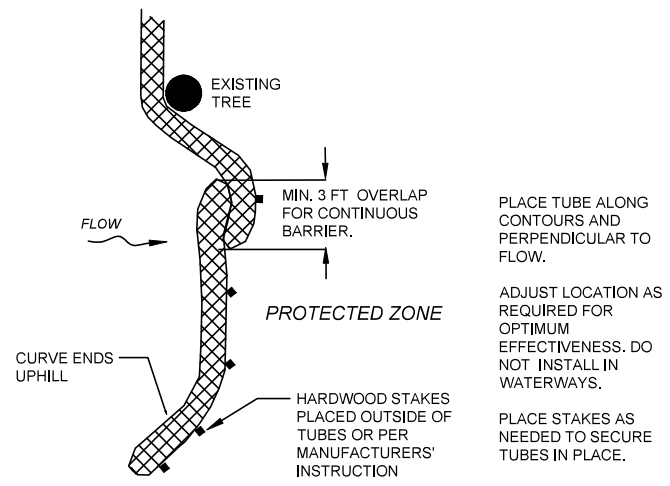
COIR FIBER ROLL

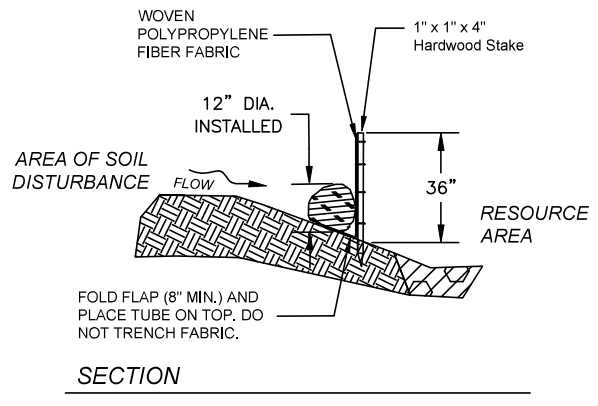
NOT TO SCALE

COMPOST FILTER TUBE BERM (SLOPES 2:1 OR STEEPER)

NOT TO SCALE

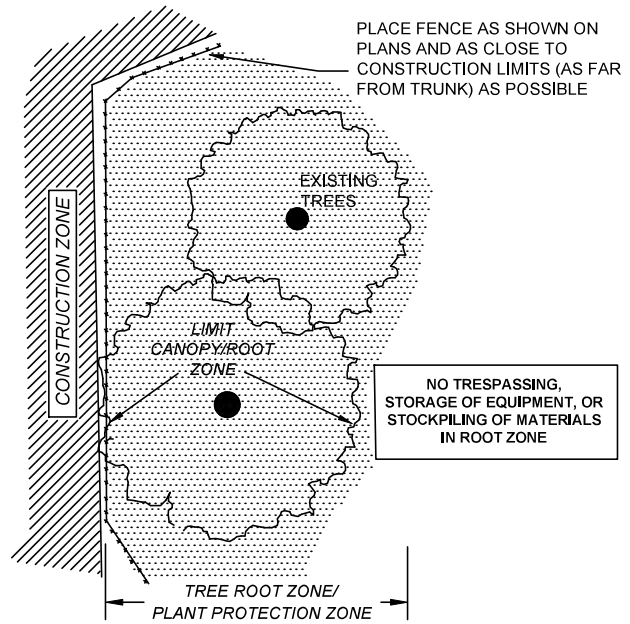


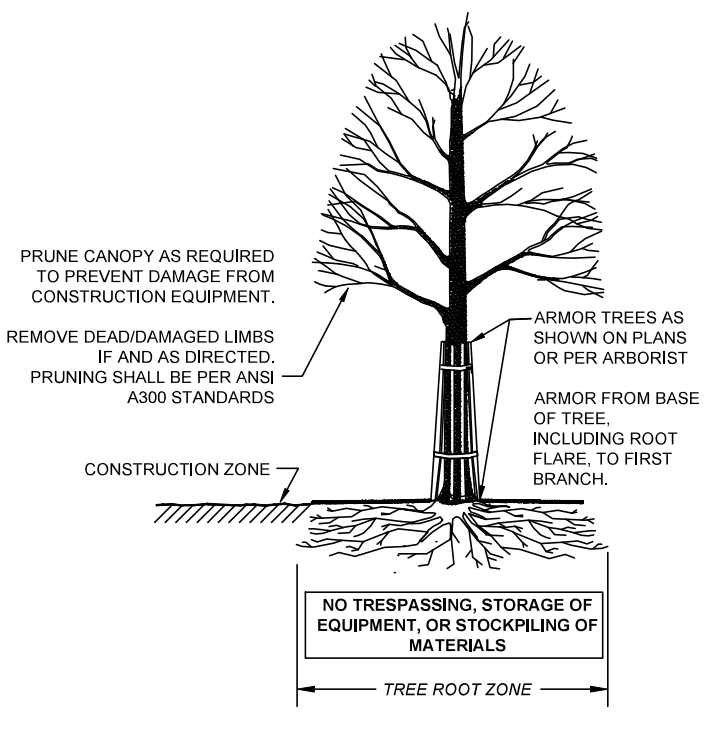


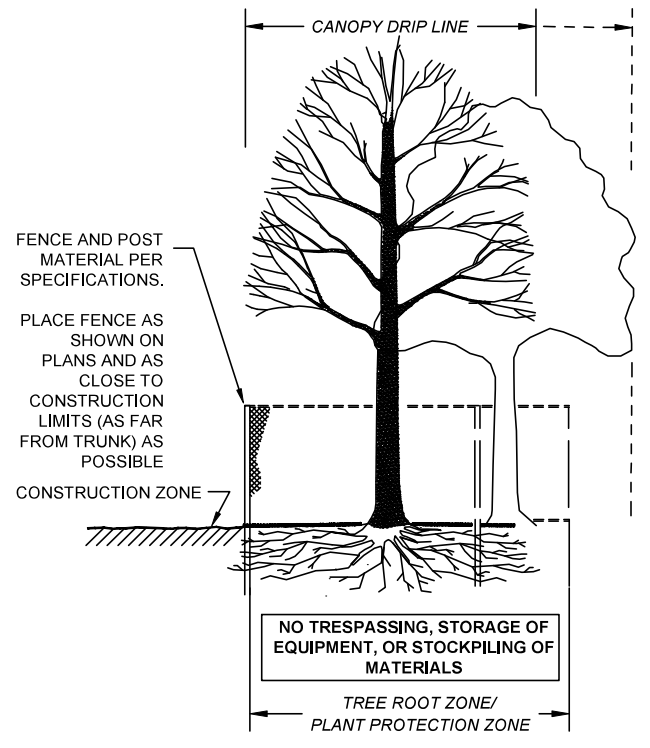


COMPOST FILTER TUBE & SILT FENCE

NOT TO SCALE







1 SEDIMENT CONTROL BARRIERS - COMPOST FILTER TUBE & COIR FIBER ROLL

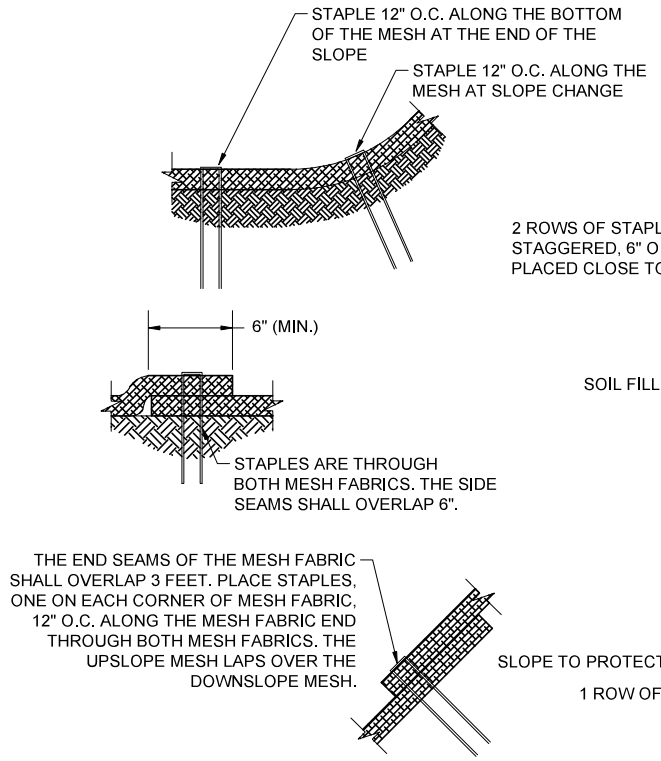
NOT TO SCALE

2 TREE PROTECTION

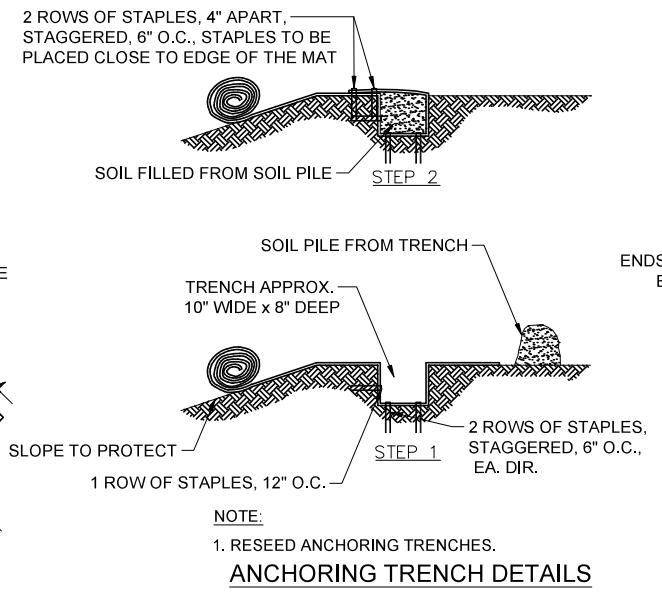
NOT TO SCALE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	33	105
PROJECT FILE NO.	608929		

LANDSCAPING DETAILS - 2

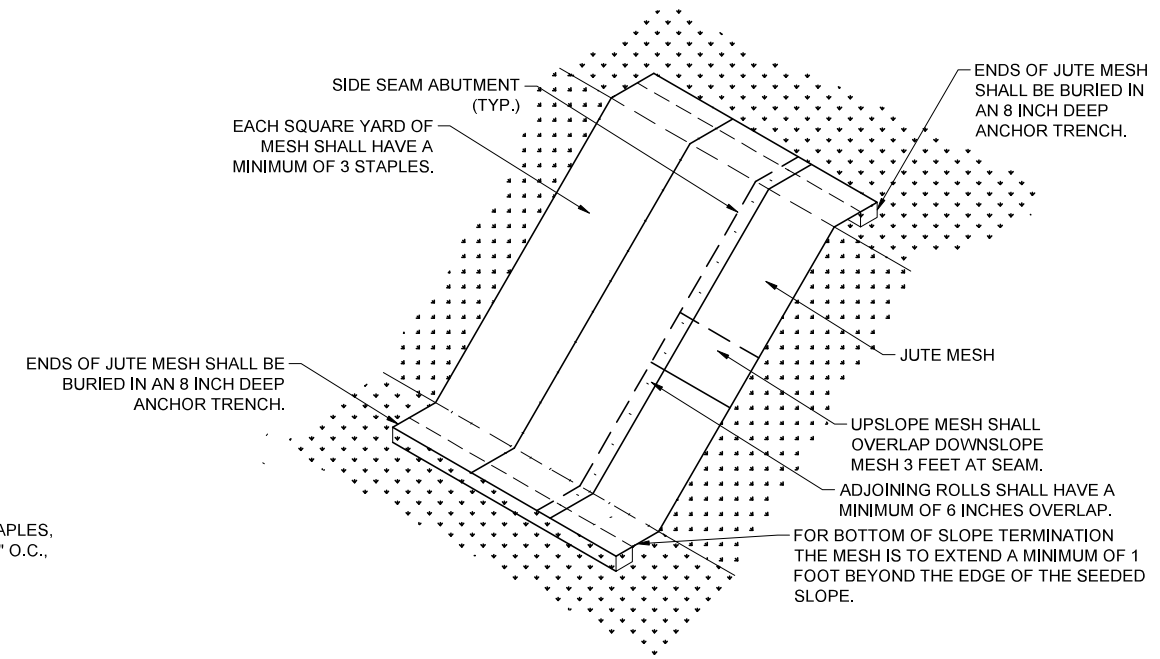


STAPLING DETAILS



NOTE:
1. RESEED ANCHORING TRENCHES.

ANCHORING TRENCH DETAILS

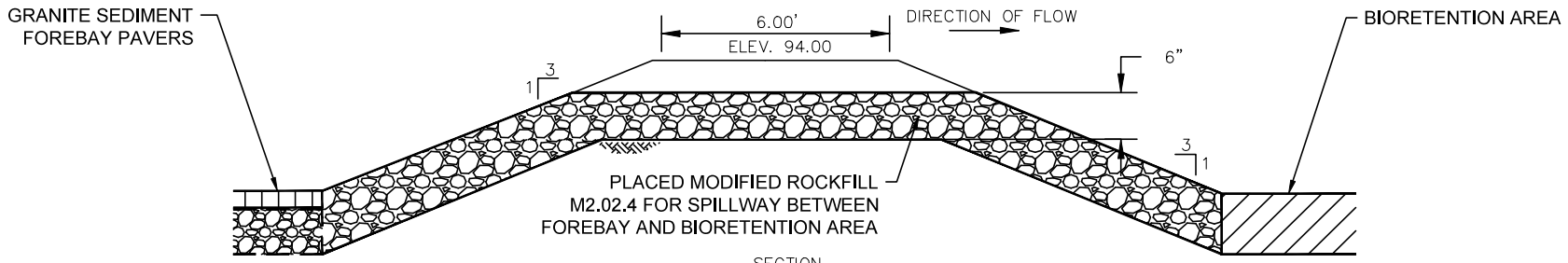


JUTE MESH FABRIC ON SLOPE

NOTES:
1. SEE MANUFACTURER'S STAPLE PATTERN GUIDE FOR DETAILS.
2. INSTALL JUTE MESH ON SLOPES GREATER THAN 3 FEET HORIZONTAL TO 1 FOOT VERTICAL AND WHERE ADDED STABILIZATION FOR EROSION CONTROL IS NEEDED.
3. JUTE MESH SHALL BE INSTALLED WITH CONTINUOUS CONTACT WITH THE SOIL.
4. AREAS WITH JUTE MESH SHALL BE SEEDED PRIOR TO THE INSTALLATION OF THE JUTE MESH.
5. STAPLES SHALL BE DRIVEN IN UNTIL THEIR TOPS ARE FLUSH WITH THE SOIL.
6. STAPLES SHALL BE 11 GAUGE STEEL 6 OR 9 INCHES IN LENGTH. IN AREAS THAT WILL BE MOWN FREQUENTLY EIGHT INCH WOOD STAKES SHALL BE USED TO ANCHOR MESH.
7. JUTE MESH SHALL BE BIODEGRADABLE.

1 JUTE MESH

NOT TO SCALE

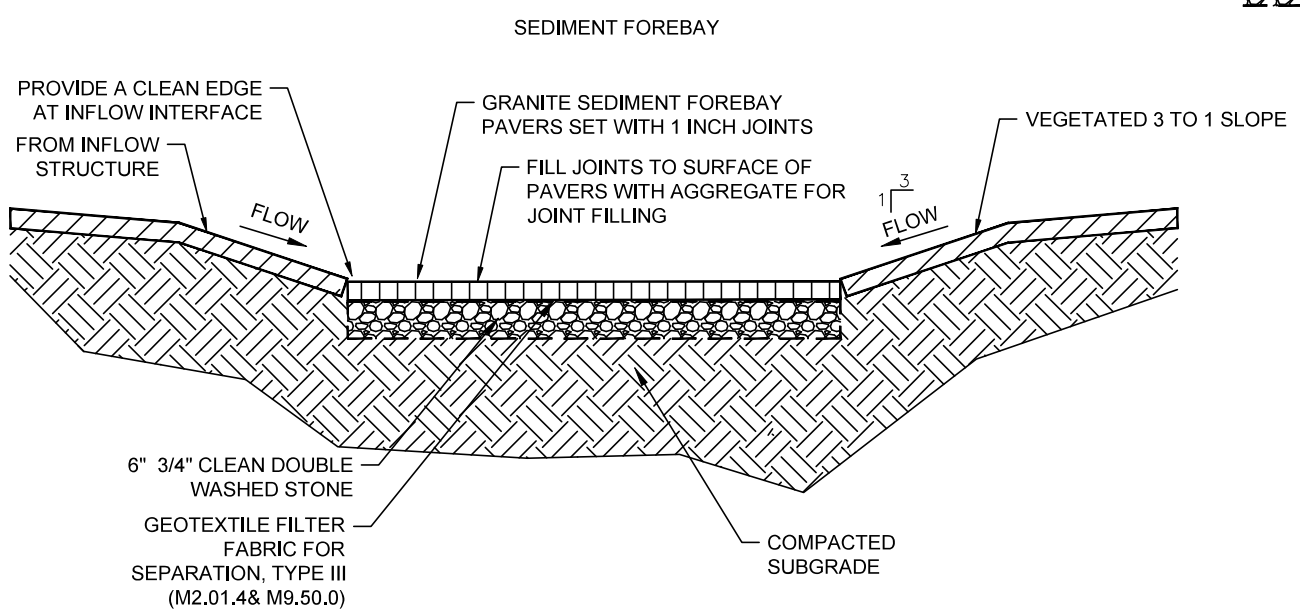


SECTION

3 SPILLWAY

NOTE:

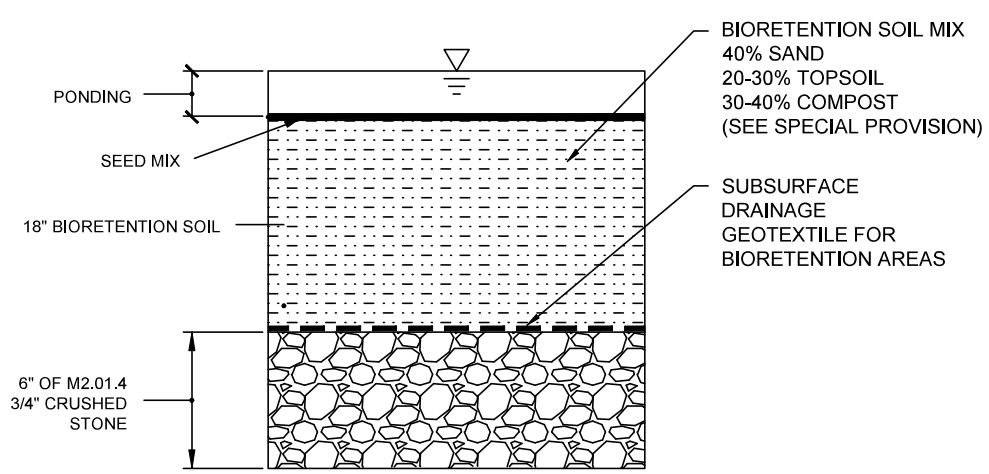
NOT TO SCALE



NOTES:
1. SEE SPECIFICATIONS FOR SEDIMENT FOREBAY PAVER REQUIREMENTS.
2. SEE DRAINAGE AND UTILITY PLANS FOR DIMENSIONS GRADING AND ELEVATIONS FOR SEDIMENT FOREBAY

2 SEDIMENT FOREBAY PAVERS

NOT TO SCALE

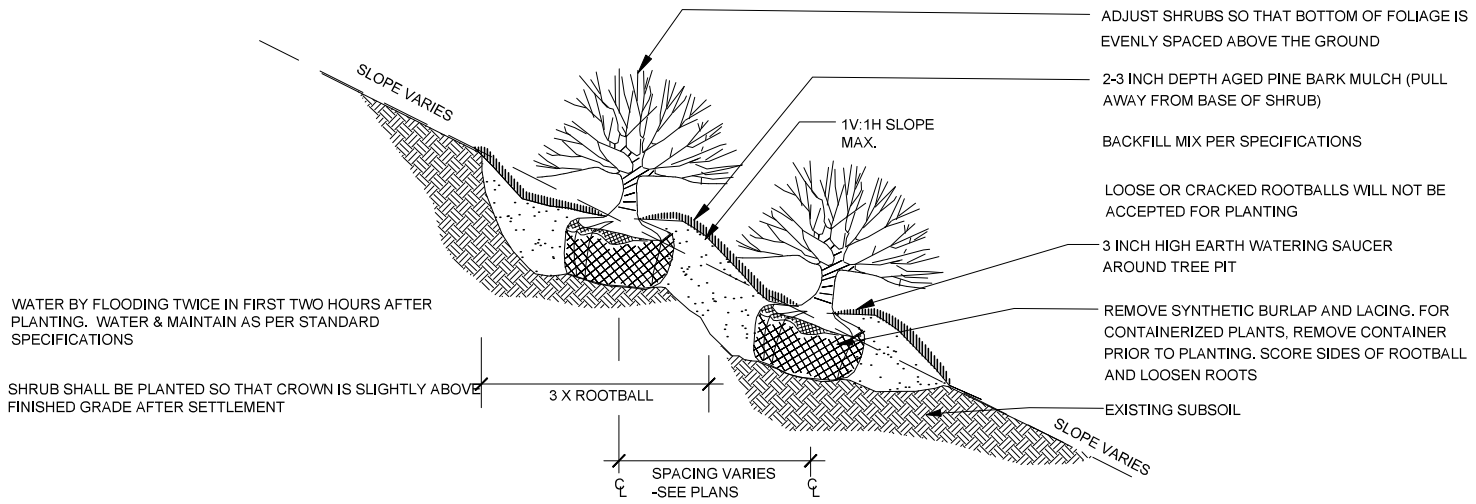


BIORETENTION AREA SECTION (TYP)

4 BIORETENTION AREA

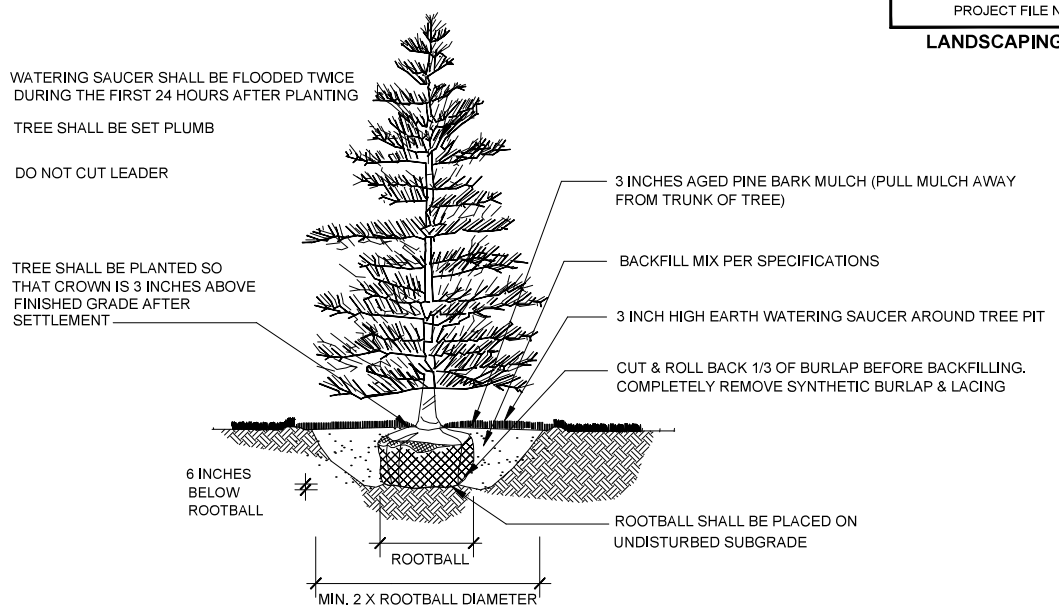
NOT TO SCALE

WQC/ACOE PLANS SHEET 19 OF 23



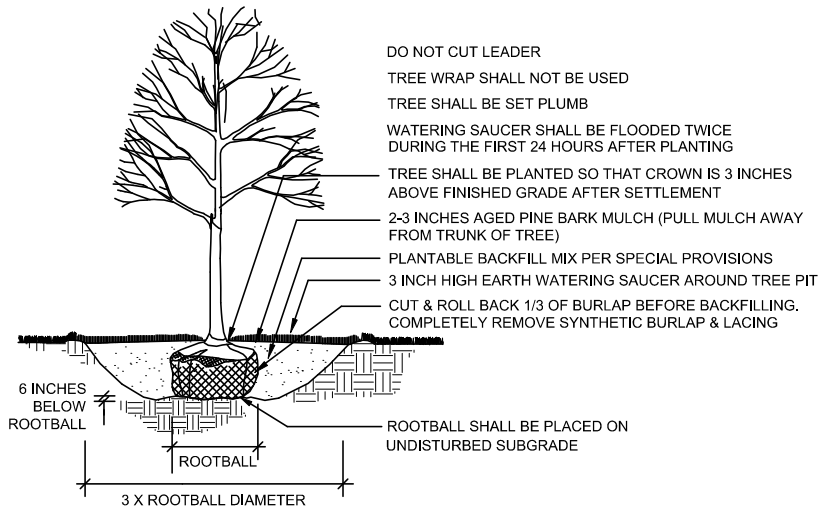
1 CONTAINERIZED SHRUB PLANTING (SLOPE) DETAIL

NOT TO SCALE



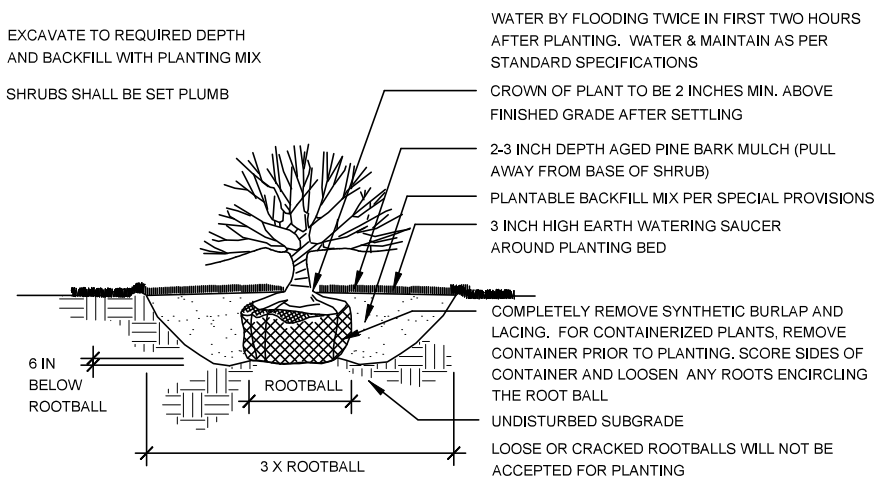
2 EVERGREEN TREE PLANTING

NOT TO SCALE



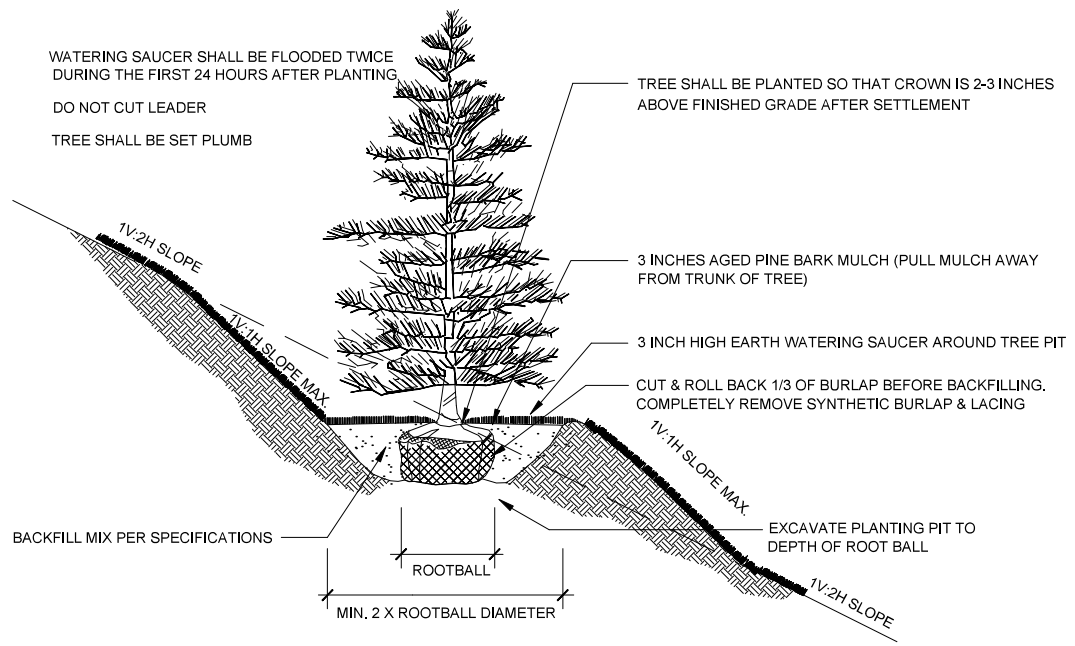
3 TREE PLANTING

NOT TO SCALE



4 SHRUB PLANTING

NOT TO SCALE

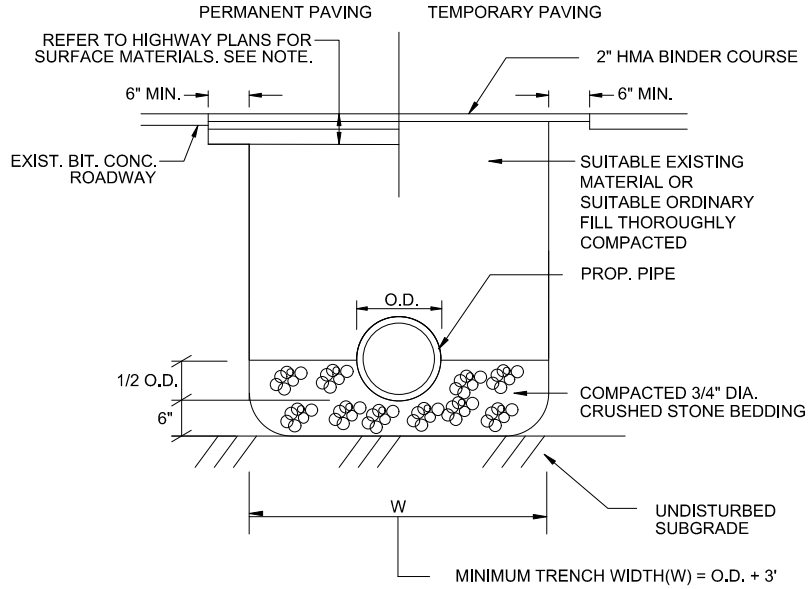


5 EVERGREEN TREE PLANTING (SLOPE)

NOT TO SCALE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	35	105
PROJECT FILE NO.	608929		

CONSTRUCTION DETAILS - 1

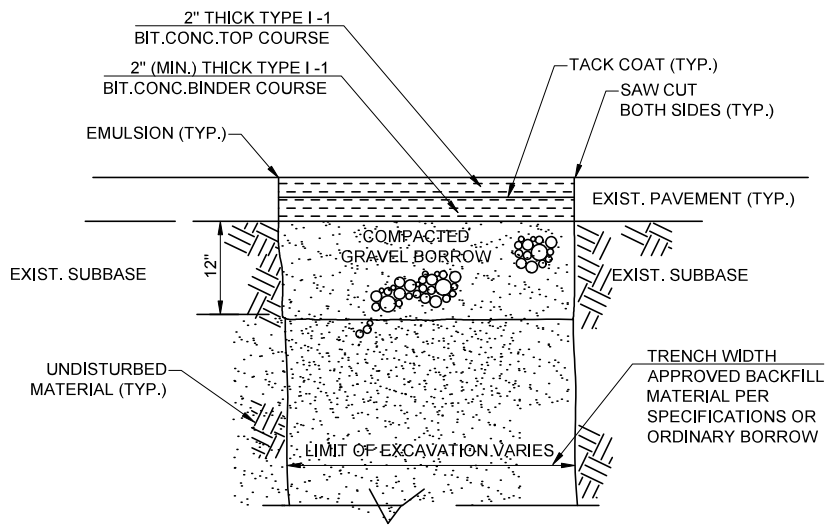


TYPICAL PIPE TRENCH

NOT TO SCALE

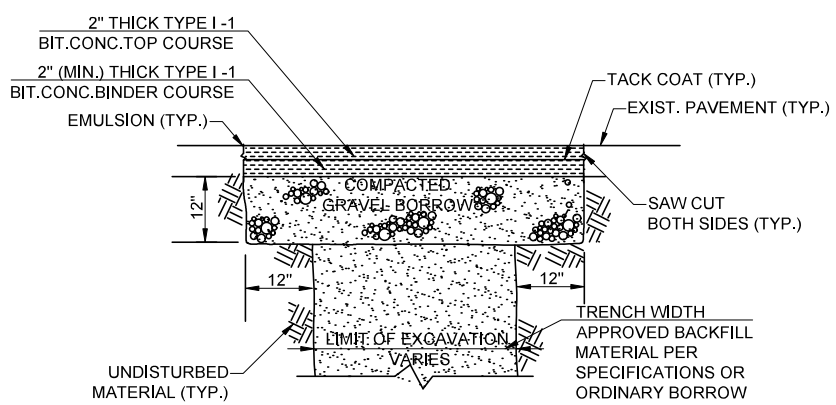
NOTE:

1. PERMANENT PAVING TO BE USED IN ALL AREAS OF MILL AND OVERLAY. MATERIALS SHALL MATCH CORRESPONDING FULL DEPTH SECTION. REFER TO TYPICAL ROADWAY SECTIONS.
2. HMA FOR PATCHING TO BE USED IN AREAS OF FUTURE FULL DEPTH CONSTRUCTION.



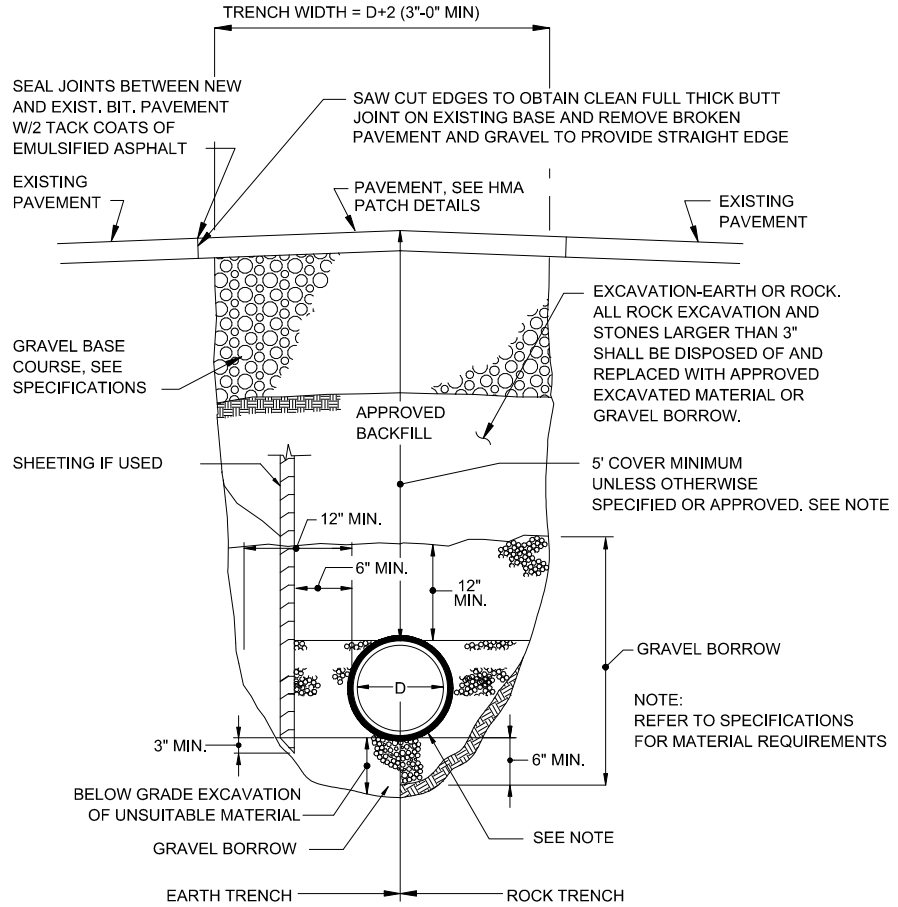
TEMPORARY TRENCH PATCH DETAIL

NOT TO SCALE



PERMANENT TRENCH PATCH DETAIL

NOT TO SCALE



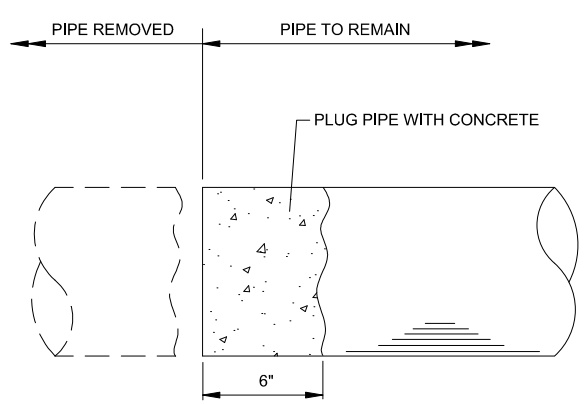
NOTE: FURNISH AND INSTALL CLOSED CELL GLASS INSULATION, 2" THICK FOAMGLASS ONE BY PITTSBURG CORNING OR EQUAL, WITH PITTWRAPP AA JACKETING BY PITTSBURG CORNING OR EQUAL WHEN WATER MAIN CANNOT BE INSTALLED AT OR BELOW THE REQUIRED BURIAL DEPTH OF FIVE (5) FEET BELOW GRADE.

WATER TRENCH SECTION

NOT TO SCALE

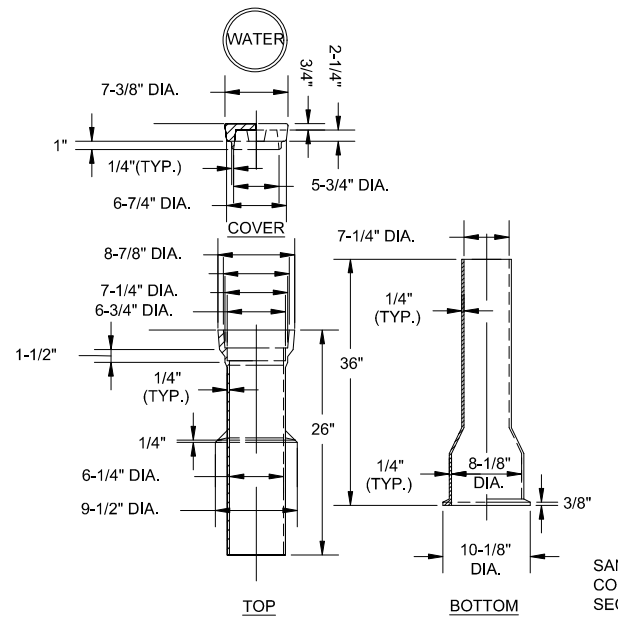
NOTES:

1. THICKNESS OF PAVEMENT SHALL MEET THICKNESS OF EXISTING PAVEMENT BUT IN NO CASE LESS THAN 4".
2. THE CONTRACTOR SHALL MAINTAIN TEMPORARY PAVEMENT FOR A MINIMUM OF 90 DAYS EXCEPT IF TEMPORARY PAVEMENT IS PLACED AFTER OCTOBER 1ST, THEN IT SHALL BE MAINTAINED UNTIL APRIL 15 OF THE FOLLOWING YEAR.
3. CONTRACTOR SHALL MEET EXISTING ROADWAY GRADES.
4. THE CONTRACTOR IS ADVISED THAT THE USE OF READY-MIX FLOWABLE FILL MAY BE REQUIRED BY THE CITY OF CAMBRIDGE DPW OR WATER DEPARTMENT FOR TRENCH BACKFILLING AND PATCHING IN THE STREET. READY-MIX FLOWABLE FILL SHALL BE USED AS DIRECTED BY THE CITY OF CAMBRIDGE AND SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.



TYPICAL PIPE PLUGGING DETAIL

NOT TO SCALE

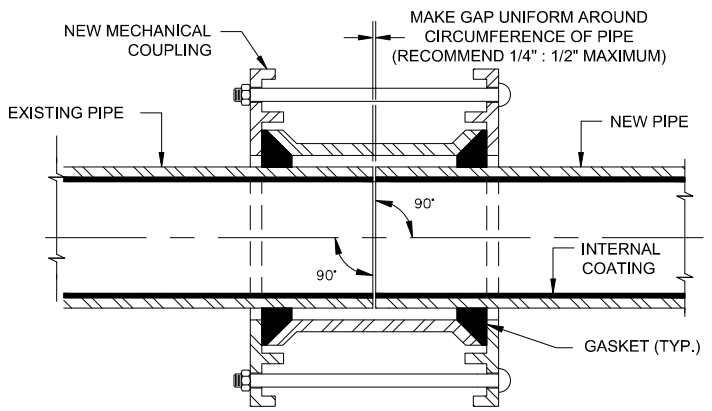


SAND BORROW MEETING CWD CONSTRUCTION STANDARDS SECTION 3.05 AND 3.06

1. ALL VALVES SHALL BE PROVIDED WITH STANDARD VALVE BOXES AND COVERS OF THE SLIDING TYPE.
2. DUCTILE IRON MAY BE SUBSTITUTED FOR CAST IRON VALVE BOXES.
3. MECHANICAL JOINTS, AFTER PIPE GASKETS AND FOLLOWER GLAND HAVE BEEN ASSEMBLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS, SHALL HAVE BOLTS INSERTED AND TIGHTENED BY HAND UNTIL ALL ARE EVEN. A RATCHET WRENCH IS THEN USED TO COMPLETE TIGHTENING OF THE BOLTS AND NUTS WITH CARE BEING TAKEN TO TIGHTEN THE OPPOSITE NUTS SO AS TO KEEP GLAND SQUARE WITH SOCKET AND BOLT STRESS EVENLY DISTRIBUTED.
4. VALVES SHALL OPEN LEFT AS PER THE WATER DEPARTMENT OF TOWN OF WILMINGTON MA RULES AND REGULATIONS.

STANDARD VALVE BOX AND COVER

NOT TO SCALE



MECHANICAL COUPLING (NON-INSULATING)

NOTES:

1. CONTRACTOR TO VERIFY OUTSIDE DIAMETER OF ALL EXISTING AND PROPOSED PIPES FOR SIZING COUPLINGS.
2. TRANSITION COUPLINGS WITH LARGER GASKETS OR REDUCING MIDDLE RINGS AS REQUIRED BY MANUFACTURER TO SPAN PIPES WITH DIFFERENT SIZE OUTSIDE DIAMETERS. A REDUCING MIDDLE RING SHALL BE USED AT LOCATIONS WHERE OUTSIDE DIAMETERS DIFFER BY 1-INCH OR MORE.
3. MECHANICAL COUPLINGS AND ALL HARDWARE SHALL BE COMPLETELY WRAPPED WITH WAX-TAPE COATING SYSTEM.
4. MECHANICAL COUPLINGS AND ALL HARDWARE SHALL BE INSTALLED AND TESTED AS PER MANUFACTURER'S STANDARDS AND INSTALLATION GUIDELINES.

MECHANICAL COUPLINGS

NOT TO SCALE